

In re Application of CABRERA et al.
Serial No. 09/361,641

The rejections are traversed in view of the following remarks. Entry of the response and reconsideration of the claims under the provisions of 37 C.F.R. 1.116 is earnestly solicited.

Applicants thank the Examiner for the interview held (by telephone) on April 8, 2003. During the interview, the Examiner and applicants' attorney discussed the claims with respect to the prior art. It is applicants' understanding that the Examiner and applicants agreed that at least state information, particularly state information that includes information related to the configuration of a storage device, is not found in the cited references.

During the interview, the Examiner and applicants reviewed each of the independent claims to identify language that recited the state information described above. In each of the independent claims, i.e., claims 1, 20, 25, 34, and 44, language related to the state information described above was found. As discussed, claim 1 recites "collecting state information...the state information including hard disk state data." Claim 20 recites "a second set of data representing partition information of the storage devices" and "a third set of data representing volume information of the storage devices." Partition information and volume information are state information related to the configuration of a storage device. Claim 25 recites "collecting restore information, including hard disk configuration information." Claim 34 recites "reading restore information...the restore information including saved hard disk configuration information." Claim 44 recites "a backup process for collecting restore information...the restore information including hard disk configuration information."

Although state information related to the configuration of a storage device is not the only difference between applicants' invention and the cited art, it is a significant difference

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that is neither disclosed nor suggested by the cited references, whether considered alone or in any permissible combination. For at least the reason that this recited limitation is not found in any of the cited art, applicants respectfully request reconsideration and withdrawal of the rejections of the claims. This aspect and other aspects of the present invention, consistent with applicants' position taken in the interview, are more fully discussed in the remarks below.

After reviewing the Office action, applicants submit that the Office Action has not established a *prima facie* case of obviousness as a matter of law, and that the claims as filed and pending are clearly patentable over the prior art of record. Further, as discussed below, the Office Action has not addressed the plain claim language, and thus has failed to meet the requirements of a proper obviousness rejection as a matter of law. Accordingly, applicants strongly disagree with the rejections, and with the way in which the claims were interpreted with respect to the prior art. Applicants submit that given each claim its broadest reasonable interpretation consistent with the specification, the claimed subject matter is clearly not disclosed or even suggested by McGill and/or Hugard, or any other prior art of record.

By way of background, the present invention defines a system recovery framework for backup and restore that provides an extensibility mechanism, such as for third-party vendors to integrate into backup and restore programs. The framework defines a common process, environment, syntax and data structures, with which backup programs integrate by collecting and writing appropriate information to be used during system recovery in a defined format for use by a system recovery process. One such defined format is a system information file

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comprising a text file that specifies the hard disk state of the system and the location of key partitions where key components of the operating system are located. The system information file may include instructions for specifying programs to launch during the restore phase, and any commands that need to be run in error handling cases. The file may also include or reference any additional drivers or files to copy to assist in the restore process.

A framework for restoring is also provided, and includes reading the system information file to restore the disk partition state, creating a common environment, and configuring the common environment. When the environment is configured, the programs specified in the system information file are run to restore the remainder of the system.

Note that the above description is for informational purposes only, and should not be used to interpret the claims, which are discussed below.

Both McGill and Hugard (hereinafter "the cited references") fail to disclose or suggest the invention as claimed, whether considered alone or in any permissible combination. Applicants will first direct applicants' remarks to the plain claim language of claim 1 to plainly show (at least) some of elements that the cited references neither disclose nor suggest. More particularly, applicants note that at least three of the teachings of claim 1 are not disclosed or suggested in the cited references. First, nowhere do the cited references disclose or suggest collecting state information that includes *hard disk state data*. Second, nowhere do the cited references disclose or suggest *automatically* configuring a hard disk based on the hard disk state. Third, nowhere do the cited references disclose or suggest writing the state information in a *defined format*.

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In the cited references, there is no mention or suggestion of gathering information that includes hard disk state data. According to applicants' teachings, hard disk state data may include, among other things, such things as disk geometry, structure and layout of a disk, number of disk partitions, how the partitions are arranged on the disk, and a location where the operating system is installed on the disk. In the cited references, conventional files are copied from a hard disk to a backup medium. When a restore is done, these conventional files are copied back to the hard disk. No mention whatsoever is made to collecting hard disk state data in addition to the conventional files.

Moreover, it is clear that in the cited references, the files that are copied are not used to automatically configure a hard disk. Rather, configuring a hard disk, according to what is disclosed in McGill, requires significant human interaction. In particular, McGill states that when a "recovery diskette (404) containing the necessary system configuration files is inserted into the PC," it is "[t]he operator [who] then determines if the hard drive being restored is to be partitioned (406)." McGill, column 7, lines 13-17. If partitioning is desired, FDISK.COM is executed. *Id.* No disclosure or suggestion is made in McGill that the partitioning program selected, i.e., FDISK.COM, is an automated program that automatically configures a hard disk. Rather, the operator determines if the hard drive being restored is to be partitioned, and if so, then FDISK.COM is executed. As known to those skilled in the art, the FDISK.COM referred to by McGill would require additional manual interaction in selecting partition parameters.

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In McGill, even the formatting of an already-partitioned disk requires manual interaction. After partitioning, McGill indicates that “[n]ext, the operator determines whether or not to format (422) the hard drive prior partitions to restoring the operating system to that partition.” McGill, column 7, lines 29-31. If so, FORMAT.COM is executed to format the partition.

In fact, the Office Action specifically concedes that “McGill does not explicitly teach system state information.” Office Action, page 5. As McGill fails to teach system state information at all, it follows that McGill must also fail to teach “writing the state information to a medium” and “automatically configuring a hard disk” based on the state information, e.g., as recited in claim 1.

To overcome this critical deficiency, the Office Action has attempted to combine Hugard with McGill in a (failed) attempt to find some teaching of state information. *Id.* The Office Action states that Hugard teaches “configuration data including AUTOEXEC.BAT, CONFIG.SYS, SYSTEM.INI, … and recovery tool files including *.INI, *.DRV, *.SYS, *.COM, *.EXE, etc.” *Id.* However, these well-known data files are clearly not related to state information or hard disk state data, nor can they be used to automatically configure a hard disk. These files are conventional data files and programs that are restored to an already-configured hard disk of a system. Nowhere does Hugard teach or suggest interpreting data that can automatically configure a hard disk.

In addition, the cited references fail to deal with the concept of writing or reading system state information in a *defined format*. The Office Action cites McGill, column 6, line

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59 through column 7, line 5 to contend that McGill somehow teaches this recited concept. However, a fair reading unmistakably shows that this cited portion of McGill simply discloses copying files in a certain order from a hard disk to a set of backup diskettes. Significantly, they do not teach writing state information in a *defined format*, such as the format shown in FIGURES 4A-4C of applicants' application, for example.

The Office Action further states that "McGill teaches the use of FORMAT.COM utility to perform data process, format, partition correctly...." Office Action, p. 10. Surely, the Office Action cannot be alleging that the well known FORMAT.COM utility can somehow be modified to write the state information of a system in a defined format; according to claim 1, state information includes hard disk state data, registry state data, and at least one restore program. FORMAT.COM does not write registry state data to a hard drive. Neither does FORMAT.COM partition a hard drive. Furthermore, as disclosed in McGill, neither FORMAT.COM nor FDISK.COM automatically partition a hard drive; they require human interaction.

In short, to one of skill in the art, the cited references merely teach saving and restoring various file types. They do not in any way teach or suggest saving state information in any particular format, let alone in a *defined format* as recited in claim 1.

In addition to claim 1, claim 20 recites a data structure that is not disclosed or suggested in the cited references. The data structure of claim 20 includes "a first set of data representing storage devices; a second set of data representing partition information...; a third set of data representing volume information...; and a fourth set of data representing at least

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one command for restoring data." No mention or hint of such a data structure is found in the cited references.

Each of the independent claims includes one or more of the above-identified teachings, which are clearly not found in the cited references. Furthermore, claims that depend on the independent claims add further teachings that are neither disclosed nor suggested by the cited references.

In sum, in the prior art of record there simply is no teaching of any system state information that is saved and/or interpreted to automatically configure an underlying system, including a hard disk or storage mechanism on that system. Moreover, there is no teaching or suggestion of a defined format for writing out such system state information. By law, to establish a *prima facie* case of obviousness, the prior art references must teach or suggest all the claim limitations, and all words in a claim must be considered in judging the patentability of that claim against the prior art. MPEP § 2142; *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974); *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). Clearly neither McGill nor Hugard, whether considered alone or in any permissible combination, comes close to meeting these requirements, as neither reference considers the preservation and/or later use of system state information saved in a defined format, as essentially recited in the claims.

Moreover, applicants note that much of the alleged motivation in the Office action for combining McGill with Hugard is directed to restoration of conventional files, not the configuration of a storage mechanism, and to the extent understood, appears to come from

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applicants' teachings. For example, error handling, high reliability and flexibility, improved performance, reduction in errors and so forth are significant improvements taught by applicants, not by the prior art. Indeed, considering the § 103(a) rejection as a whole, it is evident that the references could only have been selected and combined to reject the claims by using the impermissible hindsight knowledge learned from applicant's teachings. For example, to make up for the deficiencies in McGill, it appears that the Office Action selected Hugard for its use of the term "configuration," even though the "configuration data" of Hugard referred to in the Office action is a set of conventional files, which are not used to configure a storage mechanism, but only to restore data files to an already-configured storage mechanism. Clearly applicants' teachings were impermissibly used to combine the references in an attempt to piece together applicants' claimed invention.

It is well settled that such a hindsight reconstruction based on applicants' teachings is impermissible by law, as in order to support a § 103(a) rejection, there must be some teaching, suggestion, or motivation other than applicants' teachings for modifying a cited reference or combining references to achieve the claimed invention. The Office Action does not indicate any suggestion or motivation in the prior art of record, either explicit or otherwise, for modifying the references or combining the references in a manner that would achieve the claimed invention, or point out any teaching as to how such a modification or combination might be accomplished, or what might be accomplished thereby.

For at least the foregoing reasons, applicants submit that the § 103(a) rejections are improper as a matter of law, and moreover, even if McGill and Hugard could be permissibly

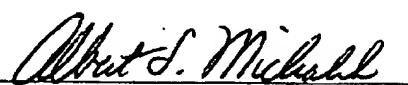
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combined, the claims of the present invention are still patentable over any such combination.
Reconsideration and withdrawal of the rejections is respectfully requested.

CONCLUSION

In view of the foregoing remarks, it is respectfully submitted that claims 1-48 of the present application are patentable over the prior art of record, and that the application is in good and proper form for allowance. A favorable action on the part of the Examiner is earnestly solicited. If in the opinion of the Examiner a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney at (425) 836-3030.

Respectfully submitted,


Albert S. Michalik, Reg. No. 37,395
Attorney for Applicant
Law Offices of Albert S. Michalik, PLLC
704 - 228th Avenue NE
Suite 193
Sammamish, WA 98074
(425) 836-3030 (telephone)
(425) 836-8957 (facsimile)